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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,220	02/17/2004	Dieter Schulz	747/9-1910	9479
28147	7590	07/18/2007		
WILLIAM J. SAPONE COLEMAN SUDOL SAPONE P.C. 714 COLORADO AVENUE BRIDGE PORT, CT 06605			EXAMINER PHAN, MAN U	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 07/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/780,220	SCHULZ ET AL.	
	Examiner	Art Unit	
	Man Phan	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/30/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The application of Schulz et al. for a "Method of dynamic adaptation for jitter buffering in packet networks" filed 02/17/2004 has been examined. Claims 1-6 are pending in the application.

2. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks TM, and other legal symbols @, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor.

Claim Rejections - 35 USC § 102

3. The following is quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lanzafame et al. (US#7,006,511).

Regarding claim 1, Lanzafame discloses a system and method of controlling a buffer for reducing jitter in a packet network, comprising: receiving packets into the buffer with a fast attack rate, and draining packets from the buffer with a slow decay rate (See Fig. 2; Col. 5, lines 39 plus). As shown in Fig. 5 which illustrated a flow diagram of a dynamic jitter buffering process, in which the jitter measurements in the inventive process are processed using a filter having *fast attack and slow decay characteristics* (adaptation control algorithm with fast attack and slow decay characteristics). Such a filter provides a "peak stretcher" function of the buffer (Col. 7, lines 18 plus). It's noted that, generally the fast attack and slow decay filter (*acts as a controlled time constant filter*) rapidly responds to an increase in signal amplitude and slowly decays the amplitude of the control signal in response to a decrease in input signal amplitude.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanzafame et al. (US#7,006,511) in view of Liu et al. (US#2005/0058146).

With respect to claims 2-4, Lanzafame et al. (US#7,006,511) and Liu et al. (US#2005/0058146) disclose a novel method and system for controlling a buffer for reducing jitter in a packet network utilizing adaptation control algorithm, according to the essential features of the claims. Lanzafame teaches the limitations, substantially as claimed, as described in claim 1 - paragraph 4 above. Lanzafame further teaches the dynamic jitter buffering, in which maximum and minimum bounds are placed on the jitter buffer target as follows. The target maximum is typically the amount of physical buffer memory divided by two. The target minimum is based on the known minimum jitter imposed by a particular transmitter and receiver implementation, as well as a quantity referred to herein as the "low water mark" of the receiver, i.e., the target minimum is given by $\text{target_min} = \text{known_min_jitter} + \text{low_water_mark}$. The low water mark, which is equal to or lower than the target minimum, is a level at which the jitter buffer size is considered to be so low as to need immediate and substantial corrective action to

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prevent jitter buffer underrun. The low water mark is based on the minimum processing time needed for the receiver to properly perform receiver operations such as depacketize, decode, etc. for a given received packet. In accordance with the Lanzafame's invention, a "dynamic low water mark" is one that changes in response to receiver load. In general, it is desirable to have the low water mark and thus the target minimum as low as possible so as to minimize delay. Therefore, the low water mark may be configured to adjust itself based on the receiver load (See Fig. 5; Col. 3, lines 13 plus and Col. 7, lines 25 plus).

However, Lanzafame does not expressly disclose the step wherein setting high watermark value equal to the count value simultaneously with setting the low watermark value equal to the count value. In the same field of endeavor, Liu et al. (US#2005/0058146) discloses in Fig. 2 a block diagram illustrated the architecture of self-adaptive jitter buffer, in which HWM (High Water Mark) and LWM (Low Water Mark) are respectively defined as the high and low overflow threshold of the jitter buffer. Between HWM and LWM, and within the area of UTB (Upper Target Boundary) and LTB (Lower Target Boundary) is a target working zone. When the filling level is out of the working zone, the working parameters of the buffer will be adjusted by the self-adaptive procedure, and the filling level will be dragged back to the working zone, where HWM, LWM, UTB, LTB should all be adjusted according to the condition of network jitter. The self-adaptive adjustment method above was developed according to the characteristics of real-time services, and especially optimized for transferring real-time voice over the packet-switched network ([0002]-[0010]).

One skilled in the art would have recognized the need for effectively and efficiently controlling a buffer for reducing jitter in a packet network, and would have applied Liu's novel

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use of HWM, LWM, UTB, LTB should all be adjusted according to the condition of network jitter into Lanzafame's teaching of the controlling a variable size jitter buffer used to store information in packet networks. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Liu's self-adaptive jitter buffer adjustment method for packet switched network into Lanzafame's dynamic jitter buffering for VoIP and other packet-based communication systems with the motivation being to provide a method and system of dynamic adaptation for jitter buffering in packet networks.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Ternovsky (US#2003/0169755) is cited to show the clock skew compensation for a jitter buffer.

The Vinnakota et al. (US#2004/0022262) is cited to show the state based jitter buffer and method of operation.

The Eckberg (US#2003/0202528) is cited to show the technique for jitter buffer delay management.

The Smith et al. (US#6,862,298) is cited to show the adaptive jitter buffer for internet telephony.

The Colavito et al. (US#7,079,486) is cited to show the adaptive threshold based jitter buffer management for packetized data.

The Wildfeuer et al. (US#6,829,244) is cited to show the mechanism for modem pass through with non-synchronized gateway clocks.

The Hickey (US#2002/0167911) is cited to show the method and apparatus for determining jitter buffer size in a voice over packet communications system.

The Moskal et al. (US#6603,759) is cited to show the adaptive buffer management for voice over packet network.

The Kramer et al. (US#6,658,027) is cited to show the jitter buffer management.

The Newson et al. (US#6,904,059) is cited to show the adaptive queuing.

The Ho et al. (US#7,170,856) is cited to show the jitter buffer for a circuit emulation service over an IP network.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Man U. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached Monday through Friday from 6:00 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

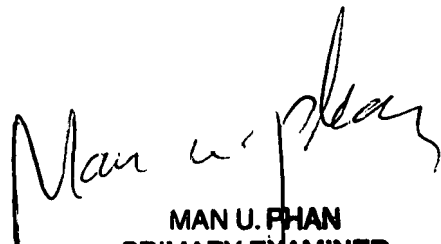
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

MPhan

07/13/2007


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PRIMARY EXAMINER